

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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Order Instituting Rulemaking Regarding
Broadband Infrastructure Deployment and to
Support Service Providers in the State of
California.

Rulemaking 20-09-001

**COMMENTS OF COMCAST PHONE OF CALIFORNIA, LLC (U-5698-C) ON
ORDER INSTITUTING RULEMAKING**

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For Comcast Phone of California, LLC

October 12, 2020

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Comcast Phone of California, LLC (U-5698-C) (“Comcast”) respectfully submits these comments in response to the Order Instituting Rulemaking (“OIR”) adopted on September 10, 2020 in the above-captioned docket. As Governor Newsom did in his recent Executive Order,¹ the OIR calls needed attention to broadband availability and adoption challenges in California, as well as steps that the California Public Utilities Commission (“CPUC” or “Commission”) and other state agencies can take to help close the remaining gaps in broadband availability and adoption as quickly and effectively as possible. Comcast supports these goals and stands ready to work with the Commission and other stakeholders toward achieving constructive policy solutions.

I. INTRODUCTION

Broadband has become a central part of modern American society that supports the way we work, learn, and connect with each other. Decades of substantial sustained investment by cable operators and other Internet service providers (“ISPs”) has led to the deployment of robust broadband infrastructure throughout much of California and the nation. But notwithstanding the overall success of U.S. broadband policy, the OIR raises important concerns regarding communities that still do not have broadband. Based on current Federal Communications

¹ Executive Order (“E.O.”) N-73-20, at 1 (Aug. 14, 2020), <https://www.gov.ca.gov/wp-content/uploads/2020/08/8.14.20-EO-N-73-20.pdf>; OIR at 1-2.

Commission (“FCC”) data, approximately five percent of Americans and two percent of Californians are not able to obtain fixed broadband service at 25/3 megabits per second (“Mbps”) as of June 2019.² Moreover, approximately 10 percent of Americans and five percent of Californians are unable to obtain fixed broadband service at or above 100/10 Mbps.³ Beyond these deployment gaps, too many Californians who have fixed broadband service options available to them still do not subscribe, limiting them from fully participating in the digital economy, educational opportunities, and civic life.

Comcast firmly supports the goal of universal broadband for all Californians. As E.O. N-73-20 and the OIR suggest, the priority should be to help close the remaining gaps in broadband availability and adoption as quickly and effectively as possible. The Commission is well-equipped to lead in this effort through programs it currently administers. In particular:

- The California Advanced Services Fund (“CASF”) helps to subsidize the cost of broadband deployment in areas where it is difficult to make a business case for network buildout. Furthermore, the Commission has played an important role in facilitating participation in the FCC’s Rural Digital Opportunity Fund (“RDOF”) auction and should continue to do so for this and other federal funding programs.⁴
- The California Teleconnect Fund (“CTF”) provides discounted broadband services to schools and libraries.⁵

Through these programs and other prudent policy choices that it can make, the Commission has opportunities to make meaningful progress toward expanding broadband deployment to unserved

² FCC, Broadband Map, <https://broadbandmap.fcc.gov/#/> (last visited Oct. 9, 2020) (figures include all fixed broadband technologies except for satellite). These numbers may turn out to be higher once more precise mapping data is available from the FCC.

³ *Id.*

⁴ The CPUC has worked with the FCC to raise awareness about the RDOF auction, including by hosting a webcast by FCC staff explaining how to apply for RDOF funding. *See* CPUC, CPUC Sponsored FCC Staff Webcast on Rural Digital Opportunity Fund (RDOF) (June 10, 2020), <https://www.cpuc.ca.gov/calEvent.aspx?id=6442465070>; *see also* CPUC, Broadband Federal Funding, <https://www.cpuc.ca.gov/broadbandfederalfunding/> (last visited Oct. 9, 2020).

⁵ *See* California Teleconnect Fund, <https://www.cpuc.ca.gov/ctf/> (last visited Oct. 9, 2020).

rural and Tribal areas, and to promote greater broadband adoption throughout California. Any action in response to the OIR should focus on these types of solutions that are squarely within the Commission's purview.

The Commission's touchstone in this proceeding should be proven, upgradable, *technology-neutral* solutions that can be rapidly and efficiently deployed to connect all Californians within the shortest possible timeframe and at the lowest cost to taxpayers and consumers. By contrast, a regulatory preference for fiber-only networks, as suggested in the OIR, would undermine universal service goals by excluding widely available, scalable technologies, like cable broadband, which is already deployed at gigabit speeds to 80 percent of U.S. homes.⁶ Government policies favoring fiber deployment would also divert public and private investment toward overbuilding existing networks in areas already served by broadband, meaning consumers without service will have to wait even longer for deployment in their areas – *widening* rather than closing the digital divide. Moreover, the CPUC's determination of which technologies can provide the connectivity that consumers will need should be based on actual consumer usage patterns rather than a regulatory preference for certain technologies or business models. In addition to cable, other technologies besides fiber – including fixed wireless, mobile wireless, and low-earth orbit satellite – already do or likely will offer broadband solutions to meet a wide range of consumer needs. A data-based approach attuned to customer demand will help direct both public and private investment more expeditiously and efficiently to close the broadband gap.

Although the Commission will consider the merits of various ideas, it should not discount proven approaches in favor of untested theories or demonstrably inferior results. In this regard,

⁶ See NCTA - The Internet & Television Association, Industry Data, <https://www.ncta.com/industry-data> (last visited Oct. 9, 2020).

the Commission should focus on sustaining a regulatory environment that has stimulated private investment in network deployment, expansion, and continuous speed improvements. Since 1996, U.S. broadband providers have invested over \$1.7 trillion in capital expenditures.⁷ As a direct result of these investments, U.S. broadband networks have proven adaptable, resilient, and reliable, even under the pressures presented by the COVID-19 pandemic.⁸ In fact, since the pandemic started, U.S. wireline broadband providers have delivered on average faster and increasing speeds compared with highly regulated broadband providers in Europe,⁹ without the need to limit data usage or throttle certain applications – which consumers experienced in other countries.¹⁰ As

⁷ Mike Saperstein, USTelecom, *USTelecom Industry Metrics and Trends 2020: Update* (Apr. 2020) <https://www.ustelecom.org/research/ustelecom-industry-metrics-and-trends-2020-update/>.

⁸ NCTA – The Internet & Cable Association, COVID-19: How Cable’s Internet Networks Are Performing, <https://www.ncta.com/COVIDdashboard> (last visited Oct. 9, 2020) (demonstrating, for example, that, during the week of September 26, 2020, on average 98 percent of cable “access network[s] at peak hour show[ed] excess capacity available; [with] no material impact on customer experience”); USTelecom – The Broadband Association, Network Performance, <https://www.ustelecom.org/research/network-performance-data/> (last visited Oct. 9, 2020) (“Evidence continues to show the user experience has held steady during the crisis, despite the surge in user demand.”).

⁹ See Anna-Maria Kovacs, *U.S. Broadband Networks Rise to the Challenge of Surging Traffic During the Pandemic* 3-5 (June 2020), <https://www.ustelecom.org/wp-content/uploads/2020/06/PP-2020-06-Kovacs-internet-performance.pdf> (“[O]n average, the U.S. mean download speed during the pandemic period was 138 megabits per second (mbps) while the weighted mean download speeds of the EU, EU-4, and OECD were 102 mbps, 106 mbps, and 89 mbps, respectively.”); see also Cable.co.uk, *How Global Broadband Speeds Changed During COVID-19 Lockdown Periods*, <https://www.cable.co.uk/broadband/speed/broadband-speeds-covid-19-lockdown/#regions> (last visited Oct. 9, 2020) (reporting that U.S. speeds rose 3.32% during the lockdown period whereas speeds in Western Europe slowed 4.66%).

¹⁰ BEREC and the European Commission, *Joint Statement from the Commission and the Body of European Regulators for Electronic Communications (BEREC) on coping with the increased demand for network connectivity due to the Covid-19 pandemic* (Mar. 19, 2020), https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=65793 (finding that “people are encouraged to make responsible use of the Internet with settings that reduce data consumption; content and application providers are also called to cooperate with telecom providers and to consider temporarily adapting the throughput of video streaming”). In response to requests by EU officials, Netflix, YouTube, Amazon, Apple, Disney+, and Facebook reduced the quality of their video streaming services in Europe to reduce the load on broadband networks – in Disney’s case, aiming to reduce bandwidth usage by at least 25 percent. Julia Alexander & Jon Porter, *Disney Plus and Facebook Are Also Reducing Streaming Quality in Europe*, The Verge (Mar. 23, 2020), <https://www.theverge.com/2020/3/22/21189920/disney-plus-delayed-france-uk-streaming-reduce-quality-coronavirus>. Australian government officials also asked

discussed further below, U.S. broadband networks also are generally faster and more widely deployed than European broadband networks. The Commission and other policymakers should not discount these clear differences in performance and outcomes in deciding which policies will prove most effective going forward.

II. Cable and Other Broadband Providers Are Meeting the Needs of Millions of California Consumers, Including During the COVID-19 Pandemic.

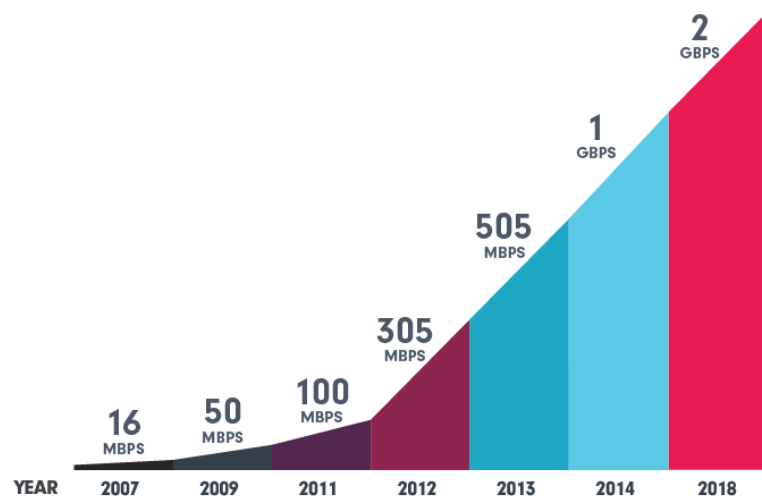
For decades, Comcast and other cable operators have made substantial investments in their networks to provide customers with high-quality, reliable services and to respond to changing consumer demand. Cable operators have invested \$290 billion over the last 20 years alone, deploying fiber deep into their scalable hybrid fiber-coaxial (“HFC”) network architecture and increasing network capacity to meet consumers’ evolving needs for high-speed connectivity.¹¹ As a result, Comcast’s broadband speeds have increased more than *1,500 percent* over the past 18 years.¹² As shown in the graphic below, top cable internet speeds industry-wide have experienced similarly dramatic increases thanks to advances in the DOCSIS technical standard and cable operators’ ongoing investments in network improvements, underscoring cable’s scalability.¹³

online video providers to reduce the quality of their streaming video to relieve strain on broadband networks during the COVID-19 crisis. Josh Taylor, *Australian government asks Netflix and Stan to reduce data to avoid broadband overload* (The Guardian) Mar. 20, 2020, <https://www.theguardian.com/media/2020/mar/20/australian-government-asks-netflix-and-stan-to-reduce-data-to-avoid-broadband-overload>.

¹¹ NCTA – The Internet & Television Association, Industry Data, <https://www.ncta.com/industry-data> (last visited Oct. 9, 2020).

¹² In 2002, Comcast’s fastest broadband tier was 1.5 Mbps downstream, compared with 2 Gbps today.

¹³ NCTA - The Internet & Television Association, Broadband by the Numbers, Tracking Cable’s Top Internet Speeds, <https://www.ncta.com/broadband-by-the-numbers> (last visited Oct. 9, 2020).



Moreover, the cable industry’s vision for delivering 10 gigabit networks – or 10G – in the coming years will offer cable broadband that is 10 times faster than today’s networks and 100 times faster than what most consumers currently experience, along with lower latencies, enhanced security, and even greater reliability.¹⁴ The latest DOCSIS 4.0 technology will allow cable operators to ultimately achieve 10 Gbps speeds downstream – and 6 Gbps upstream – over the same HFC networks that already pass more than 85 percent of U.S. households.¹⁵

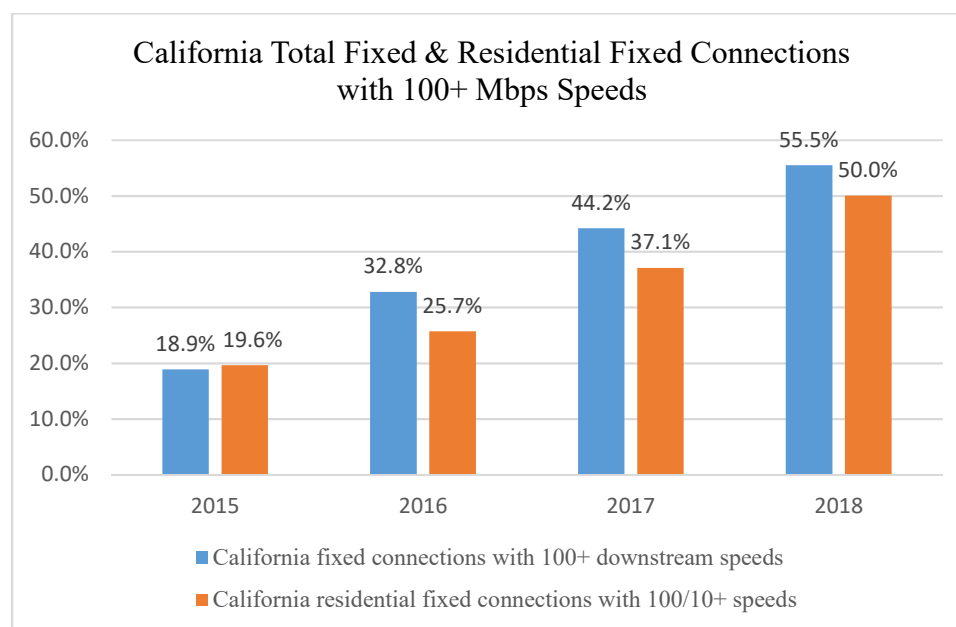
As the OIR observes, E.O. N-73-20 established “a minimum download speed goal of 100 megabits per second to guide infrastructure investment” in California.¹⁶ This is a laudable goal, and one that already has been met for an increasing number of Californians. According to FCC figures, the percentage of total fixed connections in California with downstream speeds at or above

¹⁴ See CableLabs, 10G: The Next Great Leap in Broadband (Summer 2019), <https://www-res.cablelabs.com/wp-content/uploads/2019/08/26064924/10G-The-Next-Great-Leap-in-Broadband1.pdf>.

¹⁵ See CableLabs, CableLabs Technologies, DOCSIS 4.0 Technology, <https://www.cablelabs.com/technologies#DOCSIS%C2%AE-4.0-Technology> (last visited Oct. 9, 2020).

¹⁶ OIR at 2.

100 Mbps and the percentage of fixed residential connections with speeds at or above 100/10 Mbps have increased significantly over the four years for which the FCC has reported on these speeds.¹⁷



Notably, during this same four-year period, total fixed residential connections in California increased from approximately 10.8 million to 11.4 million.¹⁸ In short, many more Californians have been getting faster speeds than ever before even as more Californians have connected to the Internet.

The OIR cites different data, often inaccurately or out of context, to paint an unduly negative picture of broadband access and adoption in California. For example, the OIR asserts that “[o]ver 2,000,000 Californians lack access to high-speed broadband at benchmark speeds of

¹⁷ FCC, *Internet Access Services: Status as of December 31, 2018*, at 29 fig. 32 (Sept. 2020), <https://docs.fcc.gov/public/attachments/DOC-366980A1.pdf>; FCC, *Internet Access Services: Status as of December 31, 2017*, at 29 fig. 32 (Aug. 2019), <https://docs.fcc.gov/public/attachments/DOC-359342A1.pdf>; FCC, *Internet Access Services: Status as of December 31, 2016*, at 29 fig. 32 (Feb. 2018), <https://docs.fcc.gov/public/attachments/DOC-349074A1.pdf>; FCC, *Internet Access Services: Status as of December 31, 2015*, at 29 fig. 32 (Nov. 2016), <https://docs.fcc.gov/public/attachments/DOC-342358A1.pdf>.

¹⁸ *Id.*

100 Mbps download, including 50 percent of rural housing units.”¹⁹ The OIR further states that “[m]ore than 14,000,000 Californians – over a third of the population – do not subscribe to broadband at the minimum benchmark speed to support distance learning and technologies that depend on upload speed.”²⁰ But, among other problems, these data provide a misleading comparison, because the cited sources only reflect broadband adoption at the 100/20 Mbps and 100/100 Mbps speed tiers – ignoring speeds like 100/10 Mbps or 100/5 Mbps that can unquestionably support a household’s entire broadband needs.²¹ As noted above, E.O. N-73-20 specified “a minimum *download* speed *goal* of 100 megabits per second,” without reference to particular – much less symmetrical – upload speeds. And while a 100 Mbps download speed may be a laudable goal, other speed tiers such as 50/5 Mbps and 25/3 Mbps continue to provide extremely effective options for many consumers, as the Commission’s own broadband data reflect.²² For example, members of a household with 25/3 Mbps service can simultaneously engage in online learning through a platform like Khan Academy, play an online game, and watch multiple streams of HD video.²³ Finally, the OIR simply misquotes E.O. N-73-20 when arguing

¹⁹ OIR at 7 (citing EOY 2018 CA Fixed Broadband Adoptions – Housing Units, <https://public.tableau.com/profile/cpuc#!/vizhome/EOY2018BroadbandAdoptionsbyHousingUnits/Adoption>). In addition, these data mix numbers for households and population, producing larger numbers of purportedly unserved Californians that cannot be directly compared to the FCC data cited above.

²⁰ *Id.*

²¹ See EOY 2018 CA Fixed Broadband Adoptions – Housing Units, <https://public.tableau.com/profile/cpuc#!/vizhome/EOY2018BroadbandAdoptionsbyHousingUnits/Adoption>.

²² See *id.* (reflecting broadband adoption at speeds as low as 6/1 Mbps).

²³ See Khan Academy, What technology set-up and maintenance are recommended for organizational use?, <https://support.khanacademy.org/hc/en-us/sections/200497604-Technology-considerations> (last visited Oct. 9, 2020) (recommending 1.5 Mbps to use the Khan Academy video); FCC, Broadband Speed Guide, <https://www.fcc.gov/consumers/guides/broadband-speed-guide> (last visited Oct. 9, 2020) (providing the minimum download speeds needed for adequate performance of typical online applications, including 5-8 Mbps to stream HD video and 3 Mbps to play a game on a game console connected to the Internet).

that “[o]nly 34 percent of adults over the age of 60 use the internet, excluding older adults from access to telemedicine, social services and other support”; in fact, the Executive Order states (albeit without citation) that “34 percent of adults 60 and over *do not* currently use the Internet.”²⁴ While there is still more work to do to ensure that all Californians have broadband, the OIR’s assessment of the current marketplace is off the mark.

The sharp growth that California has enjoyed in high-speed broadband deployment and adoption is largely due to cable. As of June 2019, cable operators offered broadband services with at least 100/10 Mbps speeds to approximately 88 percent of Americans, including 94 percent of Californians.²⁵ Cable operators also now offer gigabit service to over 80 percent of American consumers.²⁶ In fact, Comcast has increased speeds 18 times over the last 19 years, and now offers gigabit service (1 Gbps/35 Mbps) across virtually all of its California service area.²⁷ Comcast also began rolling out our next-generation Wi-Fi 6 Certified xFi Advanced Gateway to customers this year, which can deliver faster Wi-Fi speeds, greater capacity (supporting more connected devices), lower latency, and best-in-class Wi-Fi coverage throughout the home.²⁸ The FCC’s recent decision to make more unlicensed spectrum available by opening up the 6 GHz band to unlicensed use will

²⁴ Compare OIR at 8 with E.O. N-73-20 at 1 (emphasis added).

²⁵ FCC, Broadband Map, <https://broadbandmap.fcc.gov/#/> (last visited Oct. 9, 2020).

²⁶ NCTA – The Internet & Television Association, Industry Data, <https://www.ncta.com/industry-data> (last visited Oct. 9, 2020).

²⁷ Last year, Comcast increased the download speeds for the speed tiers to which 85 percent of California customers subscribed. Press Release, Comcast Corp., Comcast Increases Internet Speeds for Most Customers in California (Sept. 24, 2019), <https://california.comcast.com/2019/09/24/comcast-increases-internet-speeds-for-most-customers-in-california/>.

²⁸ Press Release, Comcast Corp., Comcast Launches Its Most Powerful Internet Device Capable of Multi-Gigabit Speeds With WiFi 6 (Jan. 6, 2020), <https://corporate.comcast.com/press/releases/comcast-launches-internet-device-multi-gigabit-speeds-wifi-6>.

further enable greater deployment of next-generation, gigabit Wi-Fi services to complement Comcast's world-class broadband networks.²⁹

Over the last 20 years, cable customers have enjoyed substantially faster speeds, while the quality-adjusted price (i.e., price per megabit per second) of cable broadband has declined from an average of \$28.13 in 2000 to \$0.64 in 2020.³⁰ While the OIR appropriately considers remaining affordability and adoption challenges, it is worth noting that U.S. consumers are getting more broadband connectivity for their money than ever before. In fact, a recent USTelecom report found that, “[w]hen inflation is considered, the real price of the most popular tier of broadband service has dropped by 28.1% since 2015; and the real price of the highest speed broadband service has dropped by 43.9%.”³¹

Moreover, programs like Comcast's Internet Essentials are enabling more consumers who have not yet adopted broadband at home to get online. Since 2011, Internet Essentials has connected more than 8 million low-income Americans to all the opportunities of a digital world through low-cost, high-speed Internet at home.³² For nearly a decade, Internet Essentials has addressed the digital divide head-on and has grown to become the nation's largest and most successful broadband adoption program. In response to the COVID-19 crisis, Comcast adjusted the program to make it easier to connect low-income families to home Internet:

²⁹ See *Unlicensed Use of the 6 GHz Band; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd. 3852 (2020); see also Press Release, Comcast Corp., FCC Votes for More Wi-Fi – Great News for Consumers (Apr. 23, 2020), <https://corporate.comcast.com/press/releases/comcast-statement-on-fcc-vote-on-6-ghz-band>.

³⁰ NCTA – The Internet & Television Association, Industry Data, <https://www.ncta.com/industry-data> (last visited Oct. 9, 2020).

³¹ Arthur Menko, Telcodata and Business Planning, Inc., *2020 Broadband Pricing Index 2* (Sept. 16, 2020), <http://www.ustelecom.org/research/2020-broadband-pricing-index-report/>. This report is based on five years of government-collected broadband pricing data representing more than 4,500 service plans.

³² See Comcast Corp., Internet Essentials from Comcast, <https://www.internetessentials.com/our-mission> (last visited Oct. 9, 2020).

- New Internet Essentials customers receive two free months of Internet service if they apply and are approved by December 31, 2020.
- For all new and existing Internet Essentials customers, the speed of the program's Internet service has increased to 25 Mbps downstream and 3 Mbps upstream.
- Households with outstanding debt owed to Comcast can be eligible for Internet Essentials.³³

These and other steps have paid significant dividends. In California, Comcast has seen strong demand for and growth in its Internet Essentials service since the pandemic began. Comcast also has launched a new initiative called the Internet Essentials Partnership Program (“IEPP”), through which it collaborates with school districts and other organizations to fund and connect students and their families to broadband in their homes via Internet Essentials.³⁴ Since the onset of the COVID-19 pandemic, IEPP has already collaborated with more than 70 schools across the country.³⁵

While Comcast's primary focus is getting more consumers the benefits of broadband in the home, in response to COVID-19, Comcast made 1.5 million public Xfinity Wi-Fi hotspots available through the end of 2020 for free to anyone who needs them, including non-Comcast customers.³⁶ In addition, Comcast is participating in San Francisco's Community Hubs Initiative by providing free access to Wi-Fi in community centers in 14 locations across the city, as a starting point, in order to help create safe spaces for low-income students to participate in distance learning,

³³ See Comcast Corp., Staying Connected During Coronavirus, <https://www.internetessentials.com/covid19> (last visited Oct. 9, 2020).

³⁴ Comcast Corp., Internet Essentials Partnership Program, <https://corporate.comcast.com/internet-essentials-partnership-program> (last visited Oct. 9, 2020).

³⁵ *Id.*

³⁶ See Comcast Extends Free Public WiFi Access to Everyone For the Remainder of 2020 (June 19, 2020), <https://corporate.comcast.com/press/releases/comcast-extends-free-public-wifi-access-remainder-of-2020>.

remote working, and after-school care, as part of a broader national “Lift Zone” initiative Comcast has taken on.³⁷

Beyond providing faster speeds and enabling more consumers to get online, Comcast and other cable operators have maintained robust and resilient networks that have been battle-tested during the COVID-19 pandemic. Most importantly, the investments that Comcast made over several years allowed the network to be upgradable on an accelerated basis. As the crisis unfolded, Comcast and other cable operators moved rapidly to adapt their networks to the needs of consumers working or attending school from home. During the spring and early summer, Comcast averaged nearly 900 improvements to its access network per week nationwide. In addition, Comcast has made over 450 improvements to its nationwide core network, adding more than 128 Terabits of capacity since March 1, 2020. In California, Comcast increased the average number of improvements made to its access network per week during the pandemic by 200 percent as compared to the pre-pandemic period. Comcast’s efforts to make these improvements were facilitated in several communities by government officials’ decision to streamline permitting protocols to enable us to more rapidly deploy and upgrade equipment in the rights of way.³⁸

These improvements have served to ensure that Comcast can continue to provide reliable, high-quality service to its customers despite significant increases in overall traffic since the stay-at-home orders were issued. Since March 1, 2020, cable operators have experienced 14.2 percent overall average downstream peak growth as of the week of September 26, 2020, and overall

³⁷ Press Release, Comcast Corp., Comcast Announces Multiyear Effort to Roll Out 1,000+ Wi-Fi-Connected ‘Lift Zones’ in Local Community Centers Nationwide (Sept. 17, 2020), <https://corporate.comcast.com/press/releases/comcast-announces-1000--liftzones-in-community-centers-in-us-cities>.

³⁸ For example, the City of Fremont issued a blanket permit for node splits. Several other cities allowed work to proceed in tandem with submitting a permit.

average upstream peak growth is up 36.9 percent.³⁹ At its highest peak since March 1, 2020, downstream traffic was up by 20.1 percent, while upstream traffic growth is currently at its highest peak of 36.9 percent.⁴⁰ In California, Comcast has experienced average downstream peak growth of 11.6 percent and 41.9 percent average upstream peak growth as of the week of September 26, 2020. Notwithstanding these surges in traffic, cable operators have consistently delivered robust and reliable network performance with little to no impact on customers' experience and ability to use their broadband connections.⁴¹ For example, average speeds to Comcast customers in California (both downstream and upstream) have generally remained at or above 105 percent of advertised speeds since March 1, 2020.

Notably, while upstream traffic, on a percentage basis, has increased more than downstream traffic during the pandemic, overall downstream traffic remains much higher than upstream traffic.⁴² For Comcast, as was the case before the COVID-19 crisis, the volume of downstream traffic continues to be *an order of magnitude* greater than upstream traffic – approximately 12:1 in August 2020. Stated another way, six months into the COVID-19 pandemic, upstream usage represented only about 7.8% of *total network usage*. In particular, downstream video streaming continues to dominate overall Internet data usage, followed by web traffic and online gaming. *Recent increases in use of video conferencing have not changed the*

³⁹ NCTA – The Internet & Television Association, COVID-19: How Cable's Internet Networks Are Performing, <https://www.ncta.com/COVIDdashboard> (last visited Oct. 9, 2020).

⁴⁰ *Id.*

⁴¹ As of the week of September 26, 2020, 92.3 percent of Comcast's network in California had excess capacity available and the remaining 7.7 percent had ample capacity available (i.e., no material impact on customer experience).

⁴² See NCTA – The Internet & Television Association, *Downstream Traffic Still Dominates Our Lives* (June 3, 2020), <https://www.ncta.com/whats-new/downstream-traffic-still-dominates-our-lives>.

*fact that symmetrical upload speeds are not necessary for reliable telework or remote learning.*⁴³

Accordingly, there is no factual or technical basis for adopting a regulatory preference, much less a mandate, for symmetrical speeds that would bear no relationship to actual consumer usage patterns. Any such regulatory pressure could cause broadband providers to misallocate investments to implement network changes that are not needed by consumers instead of addressing the core broadband deployment and adoption objectives of E.O. N-73-20 and the OIR.

III. Plans to Promote Broadband Infrastructure Deployment Should Be Technology-Neutral.

Certain concepts raised in the OIR, such as open-access fiber networks, government-owned broadband infrastructure, and government-subsidized competitors, are no panacea for ubiquitous broadband and would take years (and potentially billions of taxpayer dollars) to even begin realizing any hypothetical benefits. It would be wasteful and counterproductive to allocate limited public funds toward overbuilding existing networks that are capable of serving Californians *right now and for many years to come* simply to advance an imbalanced policy preference for fiber. The result might be to add more high-speed broadband options in wealthier, more densely populated areas like the greater Bay Area – but at the expense of communities that lack even basic broadband connectivity.

Likewise, focusing on only one technology (particularly fiber, the most expensive to deploy) would undermine the goal of universal broadband deployment and exclude technologies

⁴³ According to Zoom, for example, consumers need 1 Mbps in downstream and upstream bandwidth for each high-quality Zoom call, meaning a 25/3 Mbps connection can support at least three simultaneous Zoom calls. Zoom, System requirements for Windows, MacOS, and Linux, Bandwidth Requirements, <https://support.zoom.us/hc/en-us/articles/201362023-System-requirements-for-Windows-macOS-and-Linux> (last visited Oct. 9, 2020). Microsoft Teams has similar bandwidth requirements. See Microsoft, Prepare your organization's network for Microsoft Teams, <https://docs.microsoft.com/en-us/microsoftteams/prepare-network#bandwidth-requirements> (last visited Oct. 9, 2020) (stating that a Teams user needs 2 Mbps downstream and 1 Mbps upstream for HD group video calling).

such as cable that are already widely available to meet consumer demand. Cable operators reach the vast majority of California households with scalable networks that offer gigabit speeds today. As noted above, continuous advancements in the DOCSIS standard have allowed cable operators to offer increasingly fast speeds over their existing HFC networks and put the industry on track to achieve 10G service in the coming years. Shifting public and private investment toward overbuilding with fiber in areas that are already served by state-of-the art networks means that areas without broadband will only have to wait longer – thereby widening the digital divide, contrary to the key goals of the OIR.

Along with its too-narrow focus on fiber-to-the home (“FTTH”) technology, the OIR all but ignores the role of wireless technologies, including 5G, in delivering advanced broadband connectivity. Two brief references to wireless infrastructure appropriately hint at this topic – but not nearly enough to develop a balanced record or comprehensive broadband policy.⁴⁴ Notably, even as of June 2019, fixed wireless providers made 25/3 Mbps service available to nearly 30 percent of American consumers nationwide and to over 70 percent of Californians,⁴⁵ in many cases serving those in rural areas that are more costly and thus more difficult to serve with purely wireline technologies. The wireless industry has proclaimed that investment in and deployment of 5G promises to transform the range of broadband services available to California consumers, with wireless providers already touting options for “ultra-fast speeds, ultra-low latency and

⁴⁴ See OIR at 6 (stating that “[c]ommunities in rural areas often lack sufficient wireline and wireless broadband internet access service, as well as the backhaul infrastructure to provide broadband services”); *id.* at 10 (asking about “strategies, incentives or standards [to] improve open access in deploying fiber and wireless infrastructure”).

⁴⁵ FCC, Broadband Map, <https://broadbandmap.fcc.gov/#/> (last visited Oct. 9, 2020). “Fixed wireless” as used in the FCC’s broadband map means terrestrial fixed wireless service. *Id.*, <https://broadbandmap.fcc.gov/#/about#techCodes>.

massive capacity” for homes, businesses, and mobile users.⁴⁶ Notably, wireless providers contend that 5G may help bring broadband to rural and other unserved areas. And as the Commission has recognized when adopting CTF discounts on mobile data service to support distance learning during the current pandemic⁴⁷ and LifeLine support for foster youth to receive free smartphones,⁴⁸ wireless services also can play a key role in addressing broadband adoption challenges and providing vulnerable populations with access to the Internet.

In all but omitting discussion of wireless networks, the OIR is at odds with the priorities the Commission emphasized during its consideration and approval of the merger of T-Mobile and Sprint. In that transaction, the applicants argued that “[n]ew T-Mobile’s 5G network will . . . close the speed differential between mobile and wired broadband” and emphasized their intention “to directly and aggressively compete against conventional in-home wired broadband products, providing Californians with an attractive high-speed broadband alternative to the wired incumbent.”⁴⁹ Among other findings in that proceeding, the Commission determined that, “[b]y

⁴⁶ Verizon 5G: This is 5G Built Right, <https://www.verizon.com/5g/> (last visited Oct. 9, 2020); *see also* AT&T 5G Coverage Map, <https://www.att.com/5g/coverage-map/> (last visited Oct. 9, 2020) (“AT&T 5G is already available in many communities and is now nationwide.”); T-Mobile, America’s Largest 5G Network, <https://www.t-mobile.com/coverage/4g-lte-5g-networks> (last visited Oct. 9, 2020) (“We’ve expanded our 5G network to now cover close to 250 million Americans in more than 7,500 cities and towns nationwide.”).

⁴⁷ *See* CPUC, COVID-19 Distance Learning Discounts on Mobile Data Services for California K-12 Public School Students, <https://www.cpuc.ca.gov/General.aspx?id=6442464777> (last visited Oct. 9, 2020) (noting that the CTF program will provide a 50% discount on the monthly recurring service charge for mobile data services so that schools can “extend the classroom to the home” for students who would otherwise be unable to participate in online classrooms or other distance learning activities).

⁴⁸ *See* Press Release, iFoster, iFoster Teams Up To Provide California Foster Youth With Smartphones, (Apr. 25, 2019), <https://www.ifoster.org/ifoster-teams-up-to-provide-california-foster-youth-with-smartphones/> (announcing a \$22 million pilot program to provide smartphones with free unlimited voice, text, data, and a hotspot for Internet access to 33,000 current and former California foster youth).

⁴⁹ A.18-07-012, *In the Matter of the Joint Application of Sprint Spectrum L.P. (U-3062-C), and Virgin Mobile USA, L.P. (U-4327-C)*, Joint Application for Review of Wireless Transfer Notification Per Commission Decision 95-10-032, at 22 (July 13, 2018).

combining Sprint’s spectrum and non-overlapping cell towers with T-Mobile’s spectrum and non-overlapping cell towers, New T-Mobile will be able to offer 5G wireless service to 99 percent of Californians.”⁵⁰ Moreover, the California Attorney General and the Commission secured commitments from New T-Mobile to provide 86 percent of California’s population with access to 5G wireless service with download speeds of at least 100 Mbps by the end of 2023, and to make “in-home broadband service available to at least 912,000 California households, of which at least 58,000 shall be rural,” within three years.⁵¹ At a minimum, this proceeding should give greater consideration to how these and other planned wireless deployments could increase broadband availability in unserved areas and help achieve the goals of E.O. N-73-20.

IV. JURISDICTION

The Commission has an important, but limited, role in implementing E.O. N-73-20, frequently in collaboration with, or in support of, other state agencies. In that regard, many of the OIR’s questions appropriately focus on the Commission’s role in administering subsidy programs, improving broadband mapping, and developing plans and recommendations for coordinated action throughout the state government to promote universal access to broadband, without seeking to impose any type of prescriptive regulation on ISPs.

However, the OIR overstates the Commission’s “comprehensive jurisdiction over the deployment of high-quality advanced communications services to all Californians.”⁵² Under California law, the Commission has limited jurisdiction over specifically defined “public utilities,” and that does not include ISPs.⁵³ Although the OIR invokes a “state policy to promote universal

⁵⁰ Decision 20-04-008, mimeo at 46, Finding of Fact 10.

⁵¹ *See id.* at 49-50, Ordering Paragraphs 4-5.

⁵² OIR at 3.

⁵³ *See* Cal. Const. art. XII, § 6 (providing that the Commission “may fix rates, establish rules, examine records, issue subpoenas, administer oaths, take testimony, punish for contempt, and prescribe a uniform

and ubiquitous access to advanced telecommunications technologies and services for all Californians,” such policy statements do not grant the Commission rulemaking authority.⁵⁴ Nor does the Commission’s asserted “jurisdiction over questions of public health and safety arising from utility operations” or its role in administering CASF grant the Commission the broad regulatory authority over ISPs that the OIR suggests.⁵⁵

To the extent the OIR contemplates regulating ISPs as public utilities, such actions would exceed the Commission’s authority and conflict with federal law and policy. Notwithstanding the Commission’s role in administering programs referenced in E.O. N-73-20, the Executive Order does not (and cannot) grant the Commission any new regulatory authority, and the Commission remains bound by limits on its jurisdiction under the California Constitution and state law. In addition, the FCC has classified broadband as an interstate information service subject to a federal policy of non-regulation, and that finding was affirmed on appeal.⁵⁶ In so doing, the FCC expressly repealed common carrier classification, utility-style regulation, and prescriptive conduct rules for ISPs.⁵⁷ Broadband rate regulation, open-access or unbundling mandates, and other forms of common-carrier regulation would inevitably conflict with these controlling federal determinations, triggering preemption.⁵⁸ Equally importantly, such regulatory mandates would also be at cross-

system of accounts for all public utilities subject to its jurisdiction”); Pub. Util. Code § 216(a)(1) (listing entities subject to public utility regulation).

⁵⁴ See OIR at 3 (citing, among other provisions, Pub. Util. Code § 709).

⁵⁵ See *id.* at 5-6.

⁵⁶ *Restoring Internet Freedom*, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd. 311 (2018) (“RIF Order”), *aff’d in relevant part by Mozilla Corp. v. FCC*, 940 F.3d 1, 35 (D.C. Cir. 2019), *rehearing en banc denied*, No. 18-1051 (D.C. Cir. Feb. 6, 2020).

⁵⁷ *RIF Order* ¶¶ 1, 20.

⁵⁸ Although the *Mozilla* court held that the FCC could not categorically and prophylactically preempt *all* state broadband regulation *in advance*, it made clear that traditional principles of conflict preemption still apply. Thus, “[c]onflict preemption applies to ‘state law that *under the circumstances of the particular case* stands as an obstacle to the accomplishment and execution of the full purposes and objectives of

purposes with the fundamental objectives the OIR intends to achieve. Accordingly, the Commission should focus this proceeding on the existing aforementioned programs within its jurisdiction to help close remaining gaps in broadband deployment and adoption – not on legally insupportable and counterproductive efforts to fundamentally restructure a successful broadband marketplace.

V. RESPONSES TO QUESTIONS IN THE OIR

A. Infrastructure Deployment Models and Strategies

- 1. Implementing E.O. N-73-20, OP #8. What business models could the California energy Investor-Owned Utilities (IOUs) employ to make their existing and future fiber infrastructure more available in rural, urban and Tribal areas? What are the critical requirements and incentives for these models to be effective?**

COMCAST’S RESPONSE:

There may be opportunities for creative partnerships with investor-owned utilities (“IOUs”) to assist with broadband deployment in rural and Tribal areas by making their excess fiber infrastructure available for middle-mile connectivity to unserved areas. Indeed, there likely are regions in California in which the IOUs may be the only entities with facilities that could be used to help achieve the OIR’s goals. However, it would be ill-advised for the Commission to permit the IOUs to provide broadband service to residential customers. The IOUs’ core mission is the reliable and safe delivery of electricity, and the Commission should be vigilant to ensure that the IOUs do not engage in cross-subsidization or anti-competitive practices with respect to their monopoly ownership of poles and conduit.

Congress – whether that ‘obstacle’ goes by the name of conflicting; contrary to; repugnance; difference; irreconcilability; inconsistency; violation; curtailment; interference, or the like.” *Mozilla*, 940 F.3d at 81 (quoting *Geier v. American Honda Motor Co.*, 529 U.S. 861, 873 (2000)). The *Mozilla* court also confirmed that conflict preemption prevents states from imposing any requirements that “undermine[] the [RIF] Order,” such as the public utility-style regulations described above. *Id.* at 85.

Today, among the state's IOUs, only Southern California Edison Company ("SCE") is authorized to be a competitive local exchange carrier, and its service authority expressly prohibits providing service to residential customers.⁵⁹ In D.98-12-083, which authorized SCE to provide certain telecommunications services to business and carrier customers, the Commission recognized the potential for anticompetitive conduct and business practices that could be detrimental to SCE's ratepayers. Thus, the Commission imposed on SCE periodic accounting reporting requirements, cost tracking requirements, and a telecommunications revenue sharing mechanism.⁶⁰ These measures highlight the Commission's proper concern about "the potential risk of cross-subsidization of its telecommunications services operation by energy activities,"⁶¹ a risk also present if IOUs were to provide broadband.

The Commission should ensure that, given electric utilities' ownership and control of the overwhelming majority of utility poles in the state, the IOUs do not engage in anti-competitive practices should they elect to provide broadband or telecommunications services. The Commission's Right-of-Way Rules ("ROW Rules"), which were originally adopted in 1998 and have been little changed since that time,⁶² do not envision the IOUs as competitive providers of

⁵⁹ See Decision 98-12-083, 1998 Cal. PUC LEXIS 1010 at *26, Ordering Para. 2 ("SCE is hereby granted CPCN authority to provide the following services: access and interexchange services, including facilities-based dedicated transport (i.e., special access), facilities-based switched access local transport, unbundled loop concentration, special and switched access resale, and digital subscriber lines to long distance carriers, competitive local carriers, internet service providers, commercial mobile radio service providers, and cable and satellite television companies . . . SCE is further authorized to provide high-capacity point to point services to nonresidential end-users . . ."); *id.*, Ordering Para. 3 ("SCE is not authorized to provide retail dial tone service to business or residential customers at this time. Before offering such service, SCE shall file a new petition seeking to expand the scope of its CPCN granted herein.").

⁶⁰ See Decision 98-12-083, 1998 Cal. PUC LEXIS 1010 at *37, Appendix C ("COST TRACKING AND ALLOCATION RULES FOR SCE'S TELECOMMUNICATIONS SERVICES").

⁶¹ *Id.* at *12 (citing response to SCE application filed by the Office of Ratepayers Advocates).

⁶² See Decision 98-10-058, 1998 Cal. PUC LEXIS 879.

telecommunications service.⁶³ Should the IOUs, as pole and conduit owners, become competitors to their cable operator and CLEC pole tenants for broadband and telecommunications services, the Commission must revise the ROW Rules to mitigate the risk of anti-competitive practices.

2. **What strategies, incentives or standards can improve open access in deploying fiber and wireless infrastructure to be utilized by multiple carriers, particularly in rural and Tribal areas? Specifically, how can communication providers better share their assets and build planning (e.g., points of presence, carrier hotels, trenches, conduit, towers, poles, etc.)?**

COMCAST’S RESPONSE:

The OIR places unwarranted emphasis on open access fiber networks, which are no panacea for ubiquitous broadband. While this question correctly recognizes a role for *wireless* infrastructure, as well as fiber, in bringing broadband to unserved areas, its focus on *open access* infrastructure is unduly limited and similarly misguided. As explained above, U.S. broadband deployment has long been driven by private investment and competition, not shared public infrastructure. Open access networks have traditionally developed to bring competition to countries in which monopoly telecommunications networks were originally built and funded by the government. In the United States, there has never been a government-owned monopoly for communications infrastructure. Instead, the United States has a long and firmly established policy of encouraging facilities-based, private-sector competition. Open access has never been a viable business model for promoting investment of private capital in broadband, particularly given the heavy-handed regulatory framework typically associated with this model. Recognizing the advantages of facilities-based competition and disadvantages of utility-style regulation, the FCC

⁶³ For example, Section IV(B) of the ROW Rules provides no interval for the IOUs to respond to requests for access from cable operators and CLECs. Only the major incumbent local exchange carriers – competitors for telecommunications services – are required respond to access requests within 45-days. See Decision 18-04-007, Appendix B at B-64.

has long rejected, on a bipartisan basis, common-carrier obligations for ISPs such as unbundling or wholesale-access requirements.⁶⁴ Any open-access mandate for broadband networks would flout these longstanding bipartisan policies, remove critical incentives for private investment, and be subject to preemption.

As a direct result of its market-driven regulatory policies, the United States can point to higher speeds, more rapid infrastructure deployment, and higher levels of investment in its broadband networks than its counterparts in Europe, where broadband networks more frequently rely on open access to shared infrastructure. In a widely-cited comparative study, University of Pennsylvania Professor Christopher Yoo found that the difference in competition models between the United States and European Union (i.e., encouragement of facilities-based competition as opposed to reliance on competition via wholesale access) has led to stark divergences in the amounts of network investment across the Atlantic.⁶⁵ More recent data show that this trend has

⁶⁴ See *RIF Order* ¶ 101 (finding that private ISPs were less willing to invest during Title II classification of broadband due to concerns that the FCC could “impose a variety of costly regulations on the broadband industry—such as rate regulation and unbundling/open access requirements—placing any present investments in broadband infrastructure at risk”); *Protecting and Promoting the Open Internet*, Report on Remand, Declaratory Ruling, and Order, 30 FCC Red. 5601 ¶ 37 (2015) (stating that forbearance decisions during the FCC’s prior Title II classification of broadband would result in “no unbundling of last-mile facilities, no tariffing, no rate regulation, and no cost accounting rules”); *id.* ¶ 417 (granting forbearance “from imposing last-mile unbundling requirements, a regulatory obligation that several commenters argue has led to depressed investment in the European broadband marketplace”). Even unsuccessful legislative proposals to reinstate the FCC’s prior Title II classification have disavowed any intent to impose wholesale access requirements on broadband networks. See Press Release, U.S. Rep. Mike Doyle, “Save the Internet Act” Approved By Energy & Commerce Committee (Apr. 3, 2019), <https://doyle.house.gov/press-release/%E2%80%9Csave-internet-act%E2%80%9D-approved-energy-commerce-committee> (stating that this legislation “would codify the FCC’s 2015 Open Internet Order, and in so doing, permanently prohibit the FCC from applying provisions that require rate setting, requiring that broadband providers unbundle their network, or levying additional taxes or fees on broadband access”). These longstanding policies reflect bipartisan consensus in the Telecommunications Act of 1996 “to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation,” 47 U.S.C. § 230(b)(2), and to limit the statutory duty to provide unbundled access to network elements to highly regulated incumbent local exchange carriers – not ISPs, *see id.* § 251(c)(3).

⁶⁵ Christopher S. Yoo, *U.S. vs. European Broadband Deployment: What do the Data Say?* Faculty Scholarship at Penn Law (July 3, 2014), https://scholarship.law.upenn.edu/faculty_scholarship/1453

continued. ETNO – the leading trade association for European communications providers – estimated that U.S. network operators invested nearly 140 percent more than European network operators in capex on a per capita basis in 2018.⁶⁶

Furthermore, EU “fast broadband” deployment levels are generally 10 percent less than those in the United States. While approximately 94 percent of Americans (and approximately 98 percent of Californians) had access to broadband at speeds of at least 25/3 Mbps in 2018, only 83 percent of EU residents had access to downstream speeds of at least 30 Mbps (the EU’s closest speed metric) in 2018.⁶⁷ The deployment gap widens when considering deployment in rural areas⁶⁸ and at higher speeds, as shown in the following chart.⁶⁹

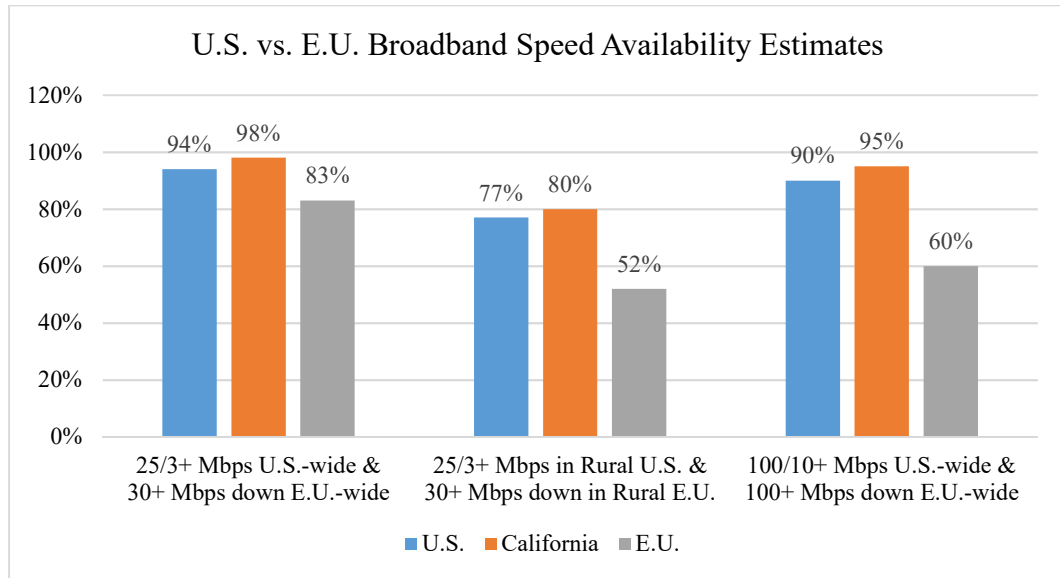
(finding that from 2007 to 2012 – a critical period for broadband network buildout – the average electronic communications sector investment per household in the U.S. was nearly double the amount spent in Europe).

⁶⁶ European Telecomm. Network Operators’ Ass’n, *The State of Digital Communications 2020*, at 28 (Jan. 28, 2020), <https://etno.eu/library/reports/90-state-of-digi-2020.html> (reporting that in 2018, Analysis Mason estimated that CapEx per capita in the U.S. was €213.3 and CapEx per capita in Europe was €89.2).

⁶⁷ Compare FCC, Broadband Map, <https://broadbandmap.fcc.gov/#/> (last visited Oct. 9, 2020), with European Commission, *Digital Economy Society Index Report Connectivity Report*, at 3 (2019), https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=60010.

⁶⁸ The FCC defines “rural” as not in a census block in an urban area defined by the 2010 Census. *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2020 Broadband Deployment Report, 35 FCC Rcd. 8986, ¶ 36 n.123 (2020). The 2010 Census defines urban areas as “densely settled core of census tracts and/or census blocks” with at least 2,500 people, of which 1,500 must reside outside of “institutional quarters.” U.S. Census Bureau, 2010 Census Urban and Rural Classification and Urban Area Criteria, <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2010-urban-rural.html#:~:text=For%20the%202010%20Census%2C%20an,included%20to%20link%20outlying%20densely> (last visited Oct. 9, 2020). The EU defines a “rural” area as having less than 100 people per kilometer squared. European Union, *Digital Economy and Society Index*, <https://digital-agenda-data.eu/datasets/desi/indicators#desi-individual-indicators> (last visited Oct. 9, 2020).

⁶⁹ Compare FCC, Broadband Map, <https://broadbandmap.fcc.gov/#/> (last visited Oct. 9, 2020), with European Commission, *Digital Economy Society Index Report Connectivity Report*, at 3, 5 (2019), https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=60010.



Therefore, to incentivize private capital investment and promote infrastructure deployment, the Commission should not subsidize or otherwise encourage new open-access infrastructure in areas that already have access to broadband. Requiring open access as part of a more general deployment incentive program would be counterproductive and divert public funds toward wasteful overbuilding rather than closing the remaining gaps in broadband access. Imposing open-access or infrastructure-sharing mandates for existing broadband networks would not only be poor public policy, but would also exceed the Commission’s authority and conflict with federal law and policy, as described above.

3. How can the Commission use its licensing, permitting and CEQA responsibilities to further the goals of this OIR? Are there areas of the CEQA process which can be streamlined while still meeting the statutory requirements?

COMCAST’S RESPONSE:

Comcast generally believes the Commission administers its licensing, permitting, and California Environmental Quality Act (“CEQA”) responsibilities well. Under the Digital Infrastructure and Video Competition Act of 2006, Pub. Util. Code §§ 5800 *et seq.* (“DIVCA”), the Commission has a limited role in CEQA review of broadband infrastructure projects because

“[t]he local entity shall serve as the lead agency for any environmental review under [DIVCA] and may impose conditions to mitigate environmental impacts of the applicant’s use of the public rights-of-way that may be required pursuant to [CEQA].”⁷⁰ The Commission reviews CLEC projects to ensure that they are exempt from full CEQA review via a notice to proceed (“NTP”) process, which requires CLECs to submit a “notice of proposed construction” for their proposed projects for environmental review. If Commission staff agrees that the project is exempt, staff issues a NTP in 21 days.⁷¹ Comcast understands that this process generally works smoothly and efficiently.

Comcast’s experience with the local permitting process, however, is a mixed bag. On one hand, some jurisdictions promote broadband deployment in their communities by employing streamlined, efficient permitting processes. Many have issued self-approved “blanket” encroachment permits for routine or low-impact work that accelerates broadband deployment. For example, Sonoma County allows a wide range of work under its blanket permit, requiring standalone permit applications only if the broadband provider is excavating within 100 feet of an intersection or placing a new utility pole. As another example, the City of Fremont issued a temporary blanket permit during the initial COVID-19 shelter-in-place period to cover critical “node splitting” capacity enhancement projects.⁷² Actions such as the City of Fremont’s have been extremely advantageous to consumers as they benefit from Comcast’s efforts to respond to the

⁷⁰ Pub. Util. Code § 5820(b).

⁷¹ *See, e.g.*, Decision 18-01-007, mimeo at 7-8 (describing the procedure to be used to obtain Commission approval of a CLEC’s claimed CEQA exemptions for proposed construction projects, which includes a 21-day review process for most proposed construction).

⁷² A node is equipment at the edge of a network to which the “last mile” connecting homes and businesses to the rest of the network is attached. Node splits are network modifications that add more capacity by segmenting the node to reduce the number of homes and/or businesses that rely on it, thereby preventing any congestion that could affect the service quality experienced by the customers connected to that node.

COVID-19 pandemic. Comcast has accelerated node splitting within its network to meet demands for increased capacity associated with COVID-19 – e.g., increased telecommuting, distance learning, and use of videoconferencing. Node splitting often requires an encroachment permit, and the permitting practices employed by local jurisdictions can either accelerate or significantly inhibit these critical network upgrades.

On the other hand, some communities have placed a significant and unnecessary burden on Comcast (and presumably other broadband providers) when we seek to deploy new broadband facilities and upgrade existing networks serving those communities' residents. Some local jurisdictions take four months or more to approve straightforward encroachment permit applications due to excessive reviews, understaffed departments, and inefficient, outdated processes. For example, in some Silicon Valley cities, *multiple distinct departments* must approve a permit application, and one city requires an arborist's report if excavation occurs anywhere near a tree. In addition, many cities refuse to accept credit card payments for permit applications – a simple process improvement that could shave additional valuable time off the permit process by eliminating delays for checks to be processed.

Comcast appreciates that the Commission may have limited authority to *require* local governments to adopt streamlined, efficient encroachment permitting processes. But the Commission can play a valuable role in convening stakeholders and ensuring that local governments understand their critical importance in achieving universal access to broadband. Comcast therefore recommends that the Commission convene a workshop during the information-gathering portion of this rulemaking with a goal of developing a list of “best practices” for local

governments to employ to promote – rather than impede – the rapid, efficient deployment of broadband infrastructure in their communities.⁷³

B. Economic Vitality and Recovery Strategies

- 1. What requirements, if any, should the Commission impose on communications service providers and IOUs to facilitate the construction of fiber when restoring facilities after a disaster such as a fire?**

COMCAST’S RESPONSE:

Comcast respectfully submits that the Commission should impose no requirements on communications service providers to facilitate the construction of fiber-optic facilities when restoring facilities after a disaster. For a variety of reasons explained below, the Commission lacks authority to regulate the transmission technology used by cable operators, and any mandate to deploy fiber would be poor public policy.

The underlying premise of the question – that fiber-optic facilities are always somehow superior to coaxial or other facilities – is flawed, as explained above. While Comcast makes extensive use of fiber-optic facilities in its network, its last-mile facilities are typically coaxial cable. Technologies such as DOCSIS Remote PHY modular headend architecture⁷⁴ allow Comcast to continually enhance its service offerings provided over coaxial last-mile facilities. Today, using its existing HFC cable plant, Comcast is able to deliver gigabit download speeds

⁷³ See, e.g., Broadband Deployment Advisory Committee, *Report of the Removal of State and Local Regulatory Barriers Working Group*, (Jan. 10, 2018), <https://www.fcc.gov/sites/default/files/bdac-regulatorybarriers-01232018.pdf> (identifying barriers to broadband deployment).

⁷⁴ See Karthik Sundaresan, CableLabs New Remote PHY Specifications Expand DOCSIS Network Deployment Options, CableLabs, (July 7, 2015), <https://www.cablelabs.com/cablelabs-new-remote-phy-specifications-expand-docsis-network-deployment-options>.

across virtually all of its California service area.⁷⁵ In addition, Comcast has found that replacing or splicing coaxial cable between cable system nodes and customers' homes is an easier and quicker process than the repair or replacement of damaged FTTH facilities. Finally, Comcast has found that equipment associated with FTTH architecture is significantly more expensive than HFC network equipment.

In fact, contrary to the premise of this question, Comcast's use of *HFC architecture* has been instrumental in its efforts to quickly and efficiently rebuild its network after wildfires and other disasters. For example, Comcast was able to quickly rebuild its network in Napa and Sonoma Counties after the devastating 2017 North Bay Fires through the use of this architecture. In the aftermath of the North Bay Fire, Comcast quickly restored temporary service to areas that survived the fire's destruction. In its rebuild of the Coffee Park neighborhood in Santa Rosa, Comcast rapidly deployed HFC network facilities, but with enhanced network speed and capacity. Comcast stands ready to do the same in the Bonny Doon community in Santa Cruz County, which recently experienced heavy damage from the CZU August Lightning Complex, once it is safe and feasible to do so. Comcast will deploy state-of-the-art HFC equipment and facilities in Bonny Doon and other areas struck by disaster. These network enhancements will provide Comcast customers with increased network speeds and capacity using HFC technology.

Any requirement that Comcast and other ISPs deploy fiber-optic facilities or FTTH architecture throughout their networks, even when unnecessary from an engineering perspective, would slow broadband deployment, raise costs, and may make it economically infeasible to rebuild networks in communities struck by disaster. Such a mandate also would run afoul of the federal

⁷⁵ See Press Release, Comcast Corp., Comcast Now Nation's Largest Provider of Gigabit Internet (Oct. 18, 2018), <https://corporate.comcast.com/press/releases/comcast-now-nations-largest-provider-of-gigabit-internet>.

Communications Act, which provides that “[n]o State or franchising authority may prohibit, condition, or restrict a cable systems use of any type of subscriber equipment or any transmission technology.”⁷⁶ Because of this provision, the FCC has held that “local authorities may not control whether a cable operator uses digital or analog transmissions *nor determine whether its transmission plant is composed of coaxial cable, fiber optic cable, or microwave radio facilities.*”⁷⁷ Thus, the Commission may not, and should not, impose any form of requirement on communications service providers to construct fiber-optic facilities following a disaster.

- 2. How can the Commission partner with other state agencies to effectively address the infrastructure and affordability gap for communications services in California? How can the Commission assist in the implementation of E.O. N-73-20, OP #7?**

COMCAST’S RESPONSE:

Comcast supports the California Cable and Telecommunications Association’s (“CCTA’s”) initial response to this question but reserves the right to comment further on reply.

- 3. How should the Commission address access to existing infrastructure for those communities where there is infrastructure going through a community but they are not served by it?**

COMCAST’S RESPONSE:

Comcast strongly supports *voluntary* action by broadband providers to make use of existing infrastructure to provide service to unserved communities. For example, the CASF program, which is intended to “encourage deployment of high-quality advanced communications services to all Californians” and to focus primarily on “unserved households,”⁷⁸ is precisely the kind of program that can help close remaining gaps in broadband availability in such communities.

⁷⁶ 47 U.S.C. § 544(e).

⁷⁷ *Implementation of Cable Act Reform Provisions of the Telecommunications Act of 1996*, Report and Order, 14 FCC Rcd. 5296 ¶ 141 (1999) (emphasis added).

⁷⁸ Pub. Util. Code § 281(a) & (b).

Comcast strongly opposes *mandatory* action, such as any requirement for “access to existing infrastructure” constructed with private capital. Indeed, as discussed above, any open-access mandate pertaining to broadband infrastructure built with private capital would be beyond the Commission’s jurisdiction, conflict with federal law and policy, and face other legal infirmities. Moreover, such action ultimately would detract from the Commission’s and the State of California’s broadband deployment and adoption goals because it would only deter private investment in broadband infrastructure in unserved areas.

4. How should the Commission consider the role of communications in serving all households in a community and concerns about digital redlining?

COMCAST’S RESPONSE:

Comcast fully agrees that no household or neighborhood should be denied access to cable service or broadband on the basis of income. By law, and through decades of investment to build out networks throughout their franchise areas, Comcast and other cable operators serve entire communities without regard to economic status. As noted above, approximately 94 percent of Californians have access to cable broadband at 100/10 Mbps from at least one provider, according to FCC data.⁷⁹ Comcast offers gigabit speeds across virtually all of its California service area. Historically, concerns about redlining have focused on overbuilders that seek to “cherry pick” the most profitable areas of a community and the alleged failure of telcos to upgrade aging networks – not the build-out practices of cable operators.

The OIR’s reference to “digital redlining” is undefined, and it is problematic to the extent that it appears to conflate multiple issues related to broadband deployment, adoption, and

⁷⁹ FCC, Broadband Map, <https://broadbandmap.fcc.gov/#/> (last visited Oct. 9, 2020).

affordability.⁸⁰ In the context of cable regulation, redlining is the practice of denying service “to any group of potential residential cable subscribers because of the income of the residents of the local area in which such group resides.”⁸¹ Redlining should not be used as a catch-all for other factors that may affect consumers’ adoption of available broadband offerings, or for claims regarding the cost of broadband service. While the OIR raises important questions regarding broadband in “low-income . . . and/or low adoption communities,”⁸² it is not accurate or constructive to equate these issues with unlawful redlining. And as explained above, the Commission has no authority to regulate broadband rates or to dictate particular business models or service offerings on the premise that doing so would increase broadband adoption.

The Commission has opportunities through existing public purpose programs within its jurisdiction, such as CASF, to ensure that broadband is within reach to all Californians. But as demonstrated by the Commission’s own recognition of the need to increase participation in LifeLine,⁸³ the mere availability of affordable broadband products is insufficient to garner adoption. The Commission’s Broadband Adoption Gap Analysis found that, in addition to income, various characteristics like primary language, education, and location in rural areas affect broadband adoption.⁸⁴ In addition, many Americans cite privacy or security concerns, nonexistent

⁸⁰ See OIR at 10.

⁸¹ 47 U.S.C. § 541(a)(3); *see also* Pub. Util. Code § 5890(a) (providing that DIVCA video franchisees “may not discriminate against or deny access to service to any group of potential residential subscribers because of the income of the residents in the local area in which the group resides”).

⁸² OIR at 11.

⁸³ See Decision 18-12-019 (establishing criteria for pilot programs in order to increase participation in the California LifeLine Program by underserved and unserved low-income households).

⁸⁴ Broadband Adoption Gap Analysis, California Advanced Services Fund Adoption Account, California Public Utilities Commission (June 2019), https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Communications/Reports_and_Presentations/CDVideoBB/BAGapAnalysis.pdf.

or inadequate home computer equipment, or lack of need or interest in getting online as the primary reasons they do not have a home Internet connection.⁸⁵ That is why Comcast, through its Internet Essentials program, has partnered with hundreds of libraries, schools, and non-profit partners to provide digital literacy training through a combination of classroom-style instruction and a portfolio of online training materials, including best-in-class curricula to engage the senior population. Since 2011, Comcast has invested more than \$650 million in raising awareness of the importance of Internet at home, teaching digital skills through community outreach and events, printing and distributing free materials, and supporting a network of tens of thousands of partners who share our vision of bringing the Internet to everyone.

To effectively address the root causes of the digital divide, the Commission should pursue targeted solutions to make broadband available to the relatively limited – but critically important – number of Californians who currently lack it. As discussed above, the OIR’s unrealistic focus on ubiquitous fiber deployment and open-access infrastructure would only distract from this goal by redirecting limited resources toward duplicative overbuilding, including in wealthier areas of the state that already have robust broadband connectivity. Overbuilding those existing networks with fiber is not only unnecessary to provide high-quality broadband service, but also would likely take decades and impose astronomical costs on California consumers. Tilting the playing field toward such a business model would only incentivize deployment in the most profitable areas to ensure an adequate return on investment – a result that would widen the digital divide. The better

⁸⁵ National Telecommunications and Information Administration, Digital Nation Data Explorer, <https://www.ntia.doc.gov/data/digital-nation-data-explorer#sel=noNeedInterestMainReason&demo=&pc=prop&disp=chart> (last visited Oct. 5, 2020) (showing that, as of November 2019, 60 percent of participants cited lack of need or interest, 18.8 percent cited affordability, 2.9 percent cited no or inadequate computer, and 2.0 percent cited privacy or security concerns as the main reason for non-adoption of broadband). However, as a result of the COVID-19 pandemic, the percentage of Americans who have not subscribed to broadband due to lack of interest or need has likely decreased significantly.

approach is to use policy levers within existing public purpose programs to precisely address the remaining gaps in broadband availability and adoption on a technology-neutral basis, with a focus on low-income and otherwise disadvantaged communities.

C. Strategies to Support Specific Communities and Uses

- 1. What further strategies, if any, should the Commission utilize to facilitate broadband internet access service for low-income, high fire threat, and/or low adoption communities, primary school students and institutions, libraries, and public safety communications?**

COMCAST’S RESPONSE:

The California Legislature and the Commission have done a commendable job in establishing programs to address these issues, consistent with their respective jurisdiction and authority. The public purpose programs listed below address discrete broadband access barriers in unique ways, and their successful administration is key in bridging the digital divide.

- CASF funding should be available to deploy broadband infrastructure and facilitate broadband adoption in unserved areas. Through the CASF program, the state assists the building of broadband infrastructure in areas of California that are difficult to serve, often due to their remoteness or terrain;⁸⁶ subsidizes line extension to customer premises;⁸⁷ addresses various barriers to broadband adoption through support of digital literacy projects and broadband access projects;⁸⁸ advances the connectivity of publicly subsidized multifamily housing developments;⁸⁹ and funds local consortia that facilitate the deployment of broadband services by assisting infrastructure grant applicants in the project development or grant application process.⁹⁰

⁸⁶ See CPUC, CASF Infrastructure Grant, <https://www.cpuc.ca.gov/General.aspx?id=8246> (last visited Oct. 9, 2020).

⁸⁷ See CPUC, CASF Line Extension Program, <https://www.cpuc.ca.gov/General.aspx?id=6442461446> (last visited Oct. 9, 2020).

⁸⁸ See CPUC, CASF Adoption Account, <https://www.cpuc.ca.gov/General.aspx?id=6442457502> (last visited Oct. 9, 2020).

⁸⁹ See CPUC, CASF Public Housing Account, <https://www.cpuc.ca.gov/General.aspx?id=908> (last visited Oct. 9, 2020).

⁹⁰ See CPUC, CASF Rural and Urban Regional Broadband Consortia Account, <https://www.cpuc.ca.gov/General.aspx?id=870> (last visited Oct. 9, 2020).

- The CTF program provides discounted broadband services to schools, libraries, community colleges, government-owned hospitals and health clinics, community-based organizations (“CBOs”), and healthcare CBOs.⁹¹

These public purpose programs have undergone, or are in the process of undergoing, revision and improvement to reduce barriers to broadband deployment and adoption and otherwise improve programmatic efficiency and effectiveness.⁹² In other programs, the Commission also has responded nimbly to new consumer needs that have arisen because of COVID-19.⁹³ Comcast respectfully submits that these programs and their continued optimization through the rulemaking process provide a useful pathway to help address California’s connectivity gaps.

As discussed above, Comcast’s Internet Essentials program enables low-income Californians to receive low-cost, high-quality broadband services at home, while providing digital literacy resources. Comcast also has partnered with a variety of organizations, including school districts, to fund and connect students and their families to broadband at home through the IEPP. These efforts also complement a cable industry initiative spearheaded by NCTA – the Internet & Television Association, which has formed a partnership with EducationSuperHighway to identify unconnected, but serviceable households with students and to potentially connect them to the Internet through broadband initiatives from leading cable ISPs, including Comcast’s Internet

⁹¹ See CPUC, California Teleconnect Fund (CTF), <https://www.cpuc.ca.gov/ctf/> (last visited Oct. 9, 2020).

⁹² See R.13-01-010, *Order Instituting Rulemaking to Conduct a Comprehensive Examination of the California Teleconnect Fund*; R.20-08-021, *Order Instituting Rulemaking Regarding Revisions to the California Advanced Services Fund*.

⁹³ In the LifeLine proceeding, the Commission temporarily suspended the LifeLine renewal process, and took other action to address the impacts of COVID-19 on LifeLine. See D.20-05-043. During the prehearing conference of the CASF rulemaking, there was wide support for expediting the consideration of what, if anything, the Commission should do differently in CASF, in response to COVID-19. R.20-08-021, Prehearing Conference (Oct. 1, 2020).

Essentials.⁹⁴ Moreover, as discussed above, Comcast is participating in San Francisco's Community Hubs Initiative by providing free access to Wi-Fi in community centers in 14 locations to help to create safe spaces for low-income students to participate in distance learning, remote working, and after-school care, as part of a national "Lift Zone" initiative.⁹⁵ Comcast has also made 1.5 million Xfinity Wi-Fi hotspots in public locations available through the end of the year for free to anyone who needs them.

With respect to high fire-threat areas, which often are located in rural parts of California that tend to include unserved households, the CASF program provides funding to build out and improve broadband infrastructure. Moreover, in R.18-03-011, Comcast, CCTA, and other wireline communications providers have put forth a proposal to maintain uninterrupted service to critical facilities in high fire-threat areas by providing 72 hours of backup power to wireline network facilities serving wireless cell tower customers and public safety customers – i.e., hospitals, police and fire stations, and emergency command and dispatch centers.⁹⁶ As this proposal recognizes, *wireless* service is generally more flexible and beneficial to consumers and first responders during emergencies and disasters because of its inherent mobility in the event of an evacuation. Further, as the Commission has noted, over 88 percent of 911 calls in California originate from wireless

⁹⁴ Press Release, NCTA – the Internet & Television Association, U.S. Cable Industry Announces New "K-12 Bridge to Broadband" Initiative to Help Connect Students to Broadband for Remote and Hybrid Learning (Sept. 10, 2020), <https://www.ncta.com/media/media-room/k12bridgetobroadband>.

⁹⁵ See Press Release, Comcast Corp., Comcast Announces Multiyear Effort to Roll Out 1,000+ Wi-Fi-Connected 'Lift Zones' in Local Community Centers Nationwide (Sept. 17, 2020), <https://corporate.comcast.com/press/releases/comcast-announces-1000--liftzones-in-community-centers-in-us-cities>.

⁹⁶ See R.18-03-011, Opening Comments of CCTA at 12-15 (Apr. 3, 2020)); Opening Comments of Comcast at 42-45 (Apr. 3, 2020).

devices.⁹⁷ For these reasons, the Commission should give greater consideration to wireless broadband as the technology that Californians use most during wildfires and other emergencies.

2. How should the Commission use the roughly \$1 million in the Digital Divide Account to help schools and students?

COMCAST’S RESPONSE:

Comcast supports CCTA’s initial response to this question but reserves the right to comment further on reply.

3. What are the strategies and models that Tribes can pursue for communications infrastructure and what are the means through which the Commission can support them?

COMCAST’S RESPONSE:

Comcast supports CCTA’s initial response to this question but reserves the right to comment further on reply.

4. What are the strategies and models that public entities can pursue for communications infrastructure and what are the means through which the Commission can support them?

COMCAST’S RESPONSE:

While public entities are essential partners in achieving universal access to broadband, the nation’s broadband infrastructure has been developed, and continues to be driven, by private-sector investment. This approach is a proven success, as demonstrated by robust and reliable network performance during the COVID-19 pandemic. For decades, Comcast has worked with local and state officials to deploy broadband and other communications services that meet and exceed the expectations of customers in their communities. Consequently, Comcast is familiar with the

⁹⁷ See Decision 20-07-011, mimeo at 47 (citing California Office of Emergency Services: “In 2019, approximately 27.4 million 9-1-1 calls were placed via wireless service as compared to approximately 3.6 million placed via wireline service”) and 92 (“The record in this proceeding shows that 88 percent of 9-1-1 calls are made from wireless phones[.]”).

effects – both positive and negative – that federal, state, and local policies can have on the deployment and adoption of broadband. Based on that experience, we recommend that the Commission work with other public entities to identify and eliminate policies and practices that continue to impede ISPs’ deployment efforts, thereby encouraging the private-sector investment that has been so successful in the past and will be critical to future broadband deployment. The Commission and other state agencies can also help by targeting public funding toward broadband build-out in unserved areas.

Unfortunately, the OIR reflects a misguided premise that government-owned networks (“GONs”) are more effective and better public policy than the private investment that has worked so well for decades. The OIR incorrectly suggests that the Commission should “support” a shift toward publicly owned broadband infrastructure without even considering whether such projects ultimately benefit their communities.⁹⁸ In fact, the track record of GONs is riddled with inefficiencies and failed projects that took years to even get started and ultimately wasted public dollars. A study by Professor Christopher Yoo of the University of Pennsylvania found that:

- Only two of the 19 GONs studied earn enough to cover the costs of development over 30 to 40 years of useful life.
- Eleven do not generate enough revenue to cover even operating costs.
- Five of the eight networks that could recover costs – including the Chattanooga, Tennessee project frequently touted by GON advocates – would take a century to do so.⁹⁹

⁹⁸ See OIR at 11.

⁹⁹ Christopher Yoo & Timothy Pfenninger, *Municipal Fiber in the United States: An Empirical Assessment of Financial Performance* (May 2017), <http://bit.ly/CTICmunifiber>; Christopher Yoo & Timothy Pfenninger, *Municipal Fiber in the United States: Response to Critics and Extension of the Analysis* (June 2017), <https://www.law.upenn.edu/live/files/6674-yoo-pfenninger---response> (updating initial analysis to correct for the characterization of one of the projects studied as employing fiber when it actually employed HFC).

As these examples demonstrate, government entry into direct ownership of broadband facilities is risky and costly. This is especially true in the COVID-19 era, when public funds are scarce and communities across California are struggling to fund essential public services amid wildfires, a pandemic, and an economic recession.¹⁰⁰ Building, maintaining, and continuously upgrading a broadband network is a complex endeavor requiring enormous funds and experience. In case after case, localities and their citizens have found that GONs have failed to meet proponents' optimistic projections and created severe financial hardship. For this reason, there are many examples of GONs being essentially abandoned or sold to private companies for a fraction of taxpayers' initial investment.¹⁰¹ Moreover, empirical analysis has shown that GONs frequently fall short of promises to create new jobs,¹⁰² promote economic development,¹⁰³ or provide low-cost access to broadband.¹⁰⁴ Ultimately, GONs do not increase competition or investment in

¹⁰⁰ A June 2020 survey from the National League of Cities found that more than 700 cities have delayed or cancelled capital expenditures and infrastructure projects due to budget cuts in the wake of COVID-19. See National League of Cities, *Cities are Essential*, <https://www.nlc.org/sites/default/files/users/user52651/CAE-Local-Impacts-Survey-Infographic.pdf>.

¹⁰¹ Provo, Utah, for example, issued nearly \$40 million in debt for a municipal fiber network that never became viable, despite adding more than \$5 per month on residents' electric bills to help fund bond payments. The city ultimately sold the network to a private ISP for \$1. See Michi Iljazi, *Taxpayers Protection Alliance Foundation Releases Municipal Broadband Failure Map* (Feb. 7, 2017), <https://www.protectingtaxpayers.org/state-issues/taxpayers-protection-alliance-foundation-releases-municipal-broadband-failure-map/>. Burlington, Vermont, spent \$33.5 million to build a municipal broadband network, but lower-than-anticipated subscriber numbers forced officials to borrow an additional \$17 million to fund the project, causing Moody's to downgrade the city's credit rating to the edge of junk bond status. Ultimately, this network too was sold to a private company. See *id.*

¹⁰² See George Ford & Alan Seals, Phoenix Center, *The Rewards of Municipal Broadband: An Econometric Analysis of the Labor Market* at 1 (May 2019), <https://www.phoenix-center.org/pcpp/PCPP54Final.pdf> (analyzing Census data to assess the labor-market impacts of the municipal broadband project in Chattanooga, Tennessee, and finding "no payoffs in the labor market from the city's broadband investments").

¹⁰³ See Sarah Oh, Technology Policy Institute, *What Are the Economic Effects of Municipal Broadband?* (July 2019), <https://techpolicyinstitute.org/wp-content/uploads/2019/11/OhTPRC2019.pdf> (empirical analysis showing that municipal broadband yields no effect on changes in household broadband subscriptions, unemployment rates, or labor force participation rates).

¹⁰⁴ See George Ford, Phoenix Center, *OTI's Cost of Connectivity 2020 Report: A Critical Review* at 2 (July 20, 2020), <https://www.phoenix-center.org/perspectives/Perspective20-06Final.pdf> (finding that

broadband infrastructure; instead, they decrease economic incentives for private ISPs to expand and upgrade their networks while saddling taxpayers with massive upfront costs that may never be fully recovered. Thus, policies supporting GONs are likely to undermine, rather than advance, the goal of making broadband available to all Californians as quickly and efficiently as possible.

The more prudent approach is for local communities to work with broadband providers to encourage private investment and infrastructure deployment in a technology-neutral manner. Existing providers are often in the best position to extend their plant to nearby unserved areas, and often the only thing standing in the way is the initial capital expenditure that would make the extension economically feasible to maintain on an ongoing basis. Scale economics mean this will frequently be a better option than standing up a new public entity. Public funding should play a role in broadband deployment, but only when targeted to truly unserved areas – not toward overbuilding by GONs or others in competition with private investment. Aspirational goals of open-access and ubiquitous fiber deployment are beyond the Commission’s jurisdiction to implement through regulations and would have the counterproductive effect of *discouraging* private investment in networks that are already bringing high-quality broadband to the vast majority of California consumers and are better-positioned to close remaining gaps in connectivity.

VI. CONCLUSION

Comcast commends the Commission for seeking comment in the OIR on important questions regarding access to broadband for all Californians and opportunities to work with other state agencies toward that goal. For all the reasons discussed above, the Commission should focus its efforts on existing programs within its jurisdiction to make broadband available in unserved

average broadband prices are about *13 percent higher* in cities with a municipal provider than in cities without a government-run network).

areas and facilitate broadband adoption by those who do not currently subscribe. Aspirational attempts to fundamentally restructure a successful broadband market through overbuilding with fiber, open-access mandates, or other forms of public utility regulation would exceed the Commission's authority, discourage private investment, and detract from the widely shared goal of universal access to broadband. Comcast looks forward to working toward more effective policy solutions and supports Commission action consistent with the views expressed above.

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For Comcast Phone of California, LLC

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